

**REMARKS**

The Examiner is thanked for the due consideration given the application. A declaration is appended to this paper.

Claims 18-25 and 28-34 and 36-40 are pending in the application. Claims 36-40 are newly presented for consideration on the merits. New independent claim 36 generally corresponds to claim 1 and finds additional support in the specification at page 4, line 20. New claims 37 and 38 find support in the specification at page 4, lines 20-21. New claims 39 and 40 find support in the specification at pages 15 and 16.

No new matter is believed to be added to the application by this amendment.

**Rejection Under 35 USC §103(a)**

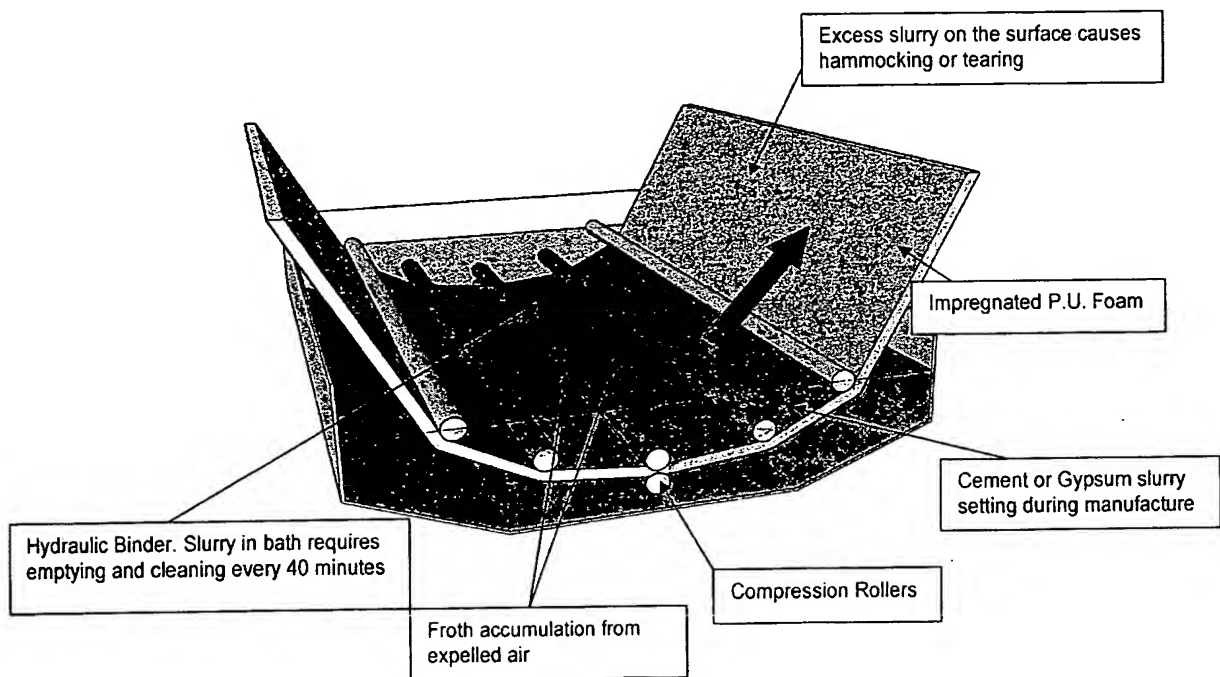
Claims 18-25 and 28-34 have been rejected under 35 USC §103(a) as being unpatentable over KURZ et al. (U.S. Patent 3,451,842) in view of VAN OOST (U.S. Patent 5,391,595). This rejection is respectfully traversed.

The present invention pertains to a method of producing an impregnated foam product.

Although KURZ et al pertains to a method of impregnating a foamed plastic, nevertheless, KURZ et al. fails to disclose or suggest impregnation using a perforated roller.

The resultant products are so disparate, it is impossible to provide a side-by-side comparison of the two products.

As attested to in the attached Declaration, applicant attempted to produce a product using the method of KURZ et al., as is diagrammed below.



The attempt was unsuccessful as the process described in KURZ is simply not practical for the following reasons:

1) As the foam is immersed in a slurry of gypsum or portland cement in a bath the slurry proceeds to set by hydration within a limited period of time making the procedure unsatisfactory for use in industry.

2) When the foam is submerged in the bath of slurry and is compressed, the slurry is aerated and froths to the point of being not suitable for the purpose of continuously impregnating the foam.

3) When the foam is compressed in the bath of slurry, the elimination of the air and the subsequent movement of the slurry to the centre of the compressed foam results in improper impregnation as the induced vacuum is insufficient.

4) When perforated rollers are used for compression in the bath of slurry excessive foaming results.

5) In order for the foam exiting the bath not to "hammock" with a slurry pool on the top surface the foam must be inserted semi-vertically into the slurry pool and when the impregnated foam is withdrawn semi-vertically the weight thereof is excessive which results in tearing.

6) There is no control of the degree of impregnation and the mass of slurry contained in the impregnated foam when the foam is submerged and compressed in the pool of slurry.

In view of the above, it is not possible to provide comparative data between a product produced through the method of KURZ and the method of claim 18.

However, it is important to note why perforated rollers are used in the present invention.

The rollers allow the feeding of the foam at a controlled speed. By controlling the hydraulic pressure of the

slurry in the perforated rollers and the viscosity of the slurry the mass of slurry impregnated can be accurately controlled.

After when the foam regains its original thickness after compression as a result of its memory, the impregnated foam serves as a carrier of the hydraulic binder slurry which can then be formed to a shape or pressed.

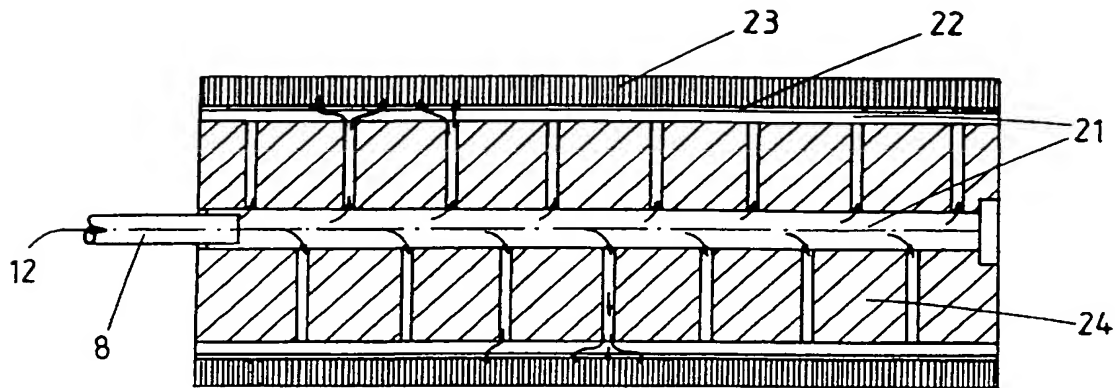
When pressed the slurry migrates to the surfaces leaving a partially impregnated core thereby providing a stress skin composite of greater stiffness and which is more economic than a solid and which is easier to cut or work in practice.

After a production run the perforated rollers are easily purged and cleaned with water.

The Official Action recognizes that KURZ does not disclose perforated rollers and refers to VAN OOST and asserts that the reference teaches perforated rollers.

However, as set forth above, KURZ could not be modified to include perforated rollers without causing excessive foaming, which would not permit penetration of the binder into the open cells of the foam element.

In any event, the roller of VAN OOST is not perforated. The roller of VAN OOST is depicted in Figure 3 of the reference, which is reproduced below.



**Fig. 3**

VAN OOST at column 3, lines 55-62 states:

The first roller 2, represented in detail in FIG. 3, comprises an internal cavity 21 which is supplied with paint via a supply duct 8. The duct is at least over a part of its length flexible. The paint is uniformly distributed on the external periphery of the roller and passes through the permeable cylinder 22 which supports the external skin 23 of the roller. The cavity can partially be filled with non-saturable light foam 24.

There is thus no teaching or suggestion that the "permeable cylinder 22" is perforated. Since the technology of VAN OOST is directed to the application of low viscosity paint, not a slurry, the "permeable cylinder 22" is probably a membrane.

Moreover, VAN OOST relates to an entirely different class of product and application, as compared to the present invention and KURZ et al. The present invention and KURZ et al. pertain to the impregnation of open cell polymeric foam elements with a binder, but VAN OOST relates to the application of a

liquid, such as paint, to a surface. See VAN OOST at column 1, line 5. VAN OOST thus represents non-analogous art that would not be utilized by one of ordinary skill.

The Official Action picked from the secondary reference of VAN OOST the permeable cylinder but ignored that paint is permeated through the cylinder in order to be uniformly distributed on the roller. The paint is necessary for the uniform distribution in the roller. The Examiner cannot ignore the paint because it is necessary for the full appreciation of what VAN OOST fairly teaches and suggests to one of ordinary skill in the art (i.e., paint being uniformly distributed on a roller by permeating through the roller). In the present invention, the slurry does not remain on the roller and rather, is penetrated into the foam element.

Therefore, the Official Action used impermissible hindsight reconstruction by picking the permeable cylinder as taught by VAN OOST and excluding the associated paint necessary to the full appreciation of uniform distribution of paint on the roller.

As a result, the teachings of KURZ et al. and VAN OOST would not cause one of ordinary skill to produce claim 18 of the present invention. A *prima facie* case of unpatentability has thus not been made. Claims depending upon claim 18 are patentable for at least the above reasons.

Further, even if one assumes *arguendo* that

unpatentability could be alleged, this unpatentability is fully rebutted by the unexpected results of the present invention versus the unworkable process of KURZ et al., as is set forth in the attached Declaration.

The advantages of the present invention are thus clear.

In view of the above, it is believed that the rejection has been overcome, obviated, or rendered moot, and that no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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